derived therefrom; by the action of nitric acid two substances are obtained, allanic and allanturic acid.—An interesting paper on a new series of aromatic hydrocarbons, by Zincke, follows; by heating together benzol, benzyl-chloride and zinc powder, or finely divided copper, a reaction sets in with the evolution of hydrochloric acid gas, and the partial formation of a metallic chloride; the principal reaction seems to be, however, $C_7H_7Cl + C_6H_6 = C_{13}H_{12} + HCl$. Benzyl-benzol is a solid crystalline body, melting at 26°—27°, and boiling at 261°—262°; by oxidation it is transformed into $C_{13}H_{10}O$, a crystalline body belonging to the monoclinic system, which fuses at 26°—26·5°. Benzophenon, however, has the same composition, but crystallises in the rhombic system, and fuses at 48°—49°; the body obtained above is therefore an isomeric benzophenon, it, however, easily passes into the modification fusing at 48°—49°. The composition of benzyl-benzol will therefore probably be $C_6H_5—CH_2—C_6H_5$.—This number concludes with the translations of two papers by Messrs. Friswell and Armstrong respectively, which have already appeared in the English journals.

THE *Geological Magazine* for January (No. 91) opens with a paper on a subject connected with an important branch of geology which is too much neglected in this country, and, indeed, has but few cultivators anywhere, namely, the microscopic structure of the so-called igneous rocks. This is Mr. S. Allport's notice of the microscopic structure of the pitchstones of Arran, the appearance of the sections of which under the microscope is, as described by Mr. Allport, exceedingly beautiful; and it is to be hoped that this paper and the illustrations accompanying it may induce others to enter upon this most interesting and important line of research.—The Rev. O. Fisher contributes a note on "Cirques and Taluses," with reference to Mr. Bonney's paper in the December number of the magazine. Mr. Fisher ascribes an essential part in the excavation of cirques to glacial action.—Mr. D. Forbes communicates a severe criticism of some remarks made by Mr. A. H. Green in his account of the geology of part of the county of Donegal.—"The Age of Floating Ice in North Wales" is the subject of a paper by Mr. D. Mackintosh; and Mr. James Geikie publishes the second part of his "Memoir on Changes of Climate during the Glacial Epoch."—The number includes the usual notices and reviews.

Memoires de la Société des Sciences Naturelles de Cherbourg. Tome xv. (Deuxième Série, Tome v.) 1870. "On the Swell and Roll of the Sea," by W. Bertin.—"Notes on the Comora and Seychelles Archipelagos," by M. Jouan. These islands were visited in 1850; a very brief list of the flora and fauna is appended. The list of birds has been apparently overlooked in the Zoological Record for January 1870.—"Notes on the Tubercles met with in *Callitriche autumnalis*," by MM. Karelschtikoff and Rosanoff, with a plate.—"On the *Lophobranchs*," by M. Dumeril.—"Notes of a Visit to Aden, Point de Galle, Singapore, and Tché-fou," by M. Jouan.—"On the Influence of Climate on the Growth of some Resinous Trees," by M. Békétoff.—"Geological Essay on the Department of La Manche," by M. Bonissent. "Supplementary notes to a paper on the Swell and Roll of the Sea," by M. Bertin.—Works received by the Society from July 1869 to August 1870.

Proceedings of the Natural History Society of Dublin, for the Session 1869-70, 1870-71, vol. vi., part i. (Dublin 1871) contains the following papers by Dr. A. W. Foot:—1, Notes on Irish Lepidoptera; 2, On Goitre in Animals; 3, On the Breeding of some Birds from the Southern Hemisphere in the Dublin Zoological Gardens; 4, Notes on Animal Luminosity; 5, Notes on Entomology; 6, Notes on Irish Diptera; 7, On some Irish Hymenoptera; and the following by Mr. William Andrews:—1, On the Inhabitants of the Rock-pools and caves of Dingle Bay, records, as new to the fauna of Ireland, *Aiptasia couchii*, *Stomphia churchiæ*, *Balanophyllia regia*, *Capnea sanguinea*, and "a deep-water species of stony coral, formed by hydroid animals, and related to the Tabulate Madrepores, which is nearly allied to, and indeed considered identical with, *Millepora alcicornis* of Linnæus;" 2, Ichthyological Notes; 3, On *Orthagoriscus oblongus*, with two plates; 4, On some rare Crustacea from the south-west of Ireland; 5, On the Ichthyology of the south-west of Ireland; 6, Notes on Hymenophylla, especially with reference to New Zealand species; 7, On some Irish Saxifrages; also papers by Prof. Macalister, on the mode of growth of Discoid and Turbinated shells; by G. H. Kinahan, on the Ferns of West Connaught and the south-west of Mayo.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, March 7.—"On the organisation of the Fossil Plants of the Coal-measures.—Part III. *Lycopodiaceæ.*" By Prof. W. C. Williamson, F.R.S. An outline of the subject of this memoir has already been published in the Proceedings in a letter to Dr. Sharpey. In a former memoir the author described the structure of a series of Lepidodendroid stems, apparently belonging to different genera and species. He now describes a very similar series, but all of which, there is strong reason for believing, belong to the same plant, of which the structure has varied at different stages of its growth. The specimens were obtained from some thin fossiliferous deposits discovered by Mr. G. Grieve, of Burntisland, in Fifeshire, where they occur imbedded in igneous rocks. The examples vary from the very youngest half-developed twigs, not more than $\frac{1}{12}$th of an inch in diameter, to arborescent stems having a circumference of from two to three feet. The youngest twigs are composed of ordinary parenchyma, and the imperfectly developed leaves which clothe them externally have the same structure. In the interior of the twig there is a single bundle, consisting of a limited number of barred vessels. In the centre of the bundle there can always be detected a small amount of primitive cellular tissue, which is a rudimentary pith. As the twig expanded into a branch, this central pith enlarged by multiplication of its cells, and the vascular bundle in like manner increased in size through a corresponding increase in the number of its vessels. The latter structure thus became converted into the vascular cylinder so common amongst Lepidodendroid plants, in transverse sections of which the vessels do not appear arranged in radiating series. Simultaneously with these changes the thick parenchymatous outer layer becomes differentiated. At first but two layers can be distinguished—a thin inner one, in which the cells have square ends, and are disposed in irregular vertical columns, and a thick outer one consisting of parenchyma, the same as the epidermal layer of the author's preceding memoir. In a short time a third layer was developed between these two.

When the vascular cylinder had undergone a considerable increase in its size and in the number of its vessels, a new element made its appearance. An exogenous growth of vessels took place in a cambium layer, which invested the pre-existing vascular cylinder. The author distinguishes the latter as the vascular medullary cylinder, and the former as the ligneous zone. The newly-added vessels were arranged in radiating laminæ, separated from each other by small but very distinct medullary rays. At an earlier stage of growth traces of vascular bundles proceeding from the central cylinder to the leaves had been detected. These are now very clearly seen to leave the surface of the medullary vascular cylinder where it and the ligneous zone are in mutual contact; hence tangential sections of the former exhibit no traces of these bundles, but similar sections of the ligneous zone present them at regular intervals and in quincuncial order. Each bundle passes outwards through the ligneous zone, imbedded in a cellular mass, which corresponds, alike in its origin and in its direction, with the ordinary medullary rays, differing from them only in its larger dimensions. At this stage of growth the plant is obviously identical with the *Diploxylon* of Corda, with the *Anabathra* of Witham, and, so far as this internal axis is concerned, with the *Sigillaria elegans* of Brongniart. The peculiar medullary vascular cylinder existing in all these plants is now shown to be merely the developed vascular bundle of ordinary Lycopods, whilst the exogenous radiating ligneous zone enclosing that cylinder is an additional element which has no counterpart amongst the living forms of this group.

Though the central compound cellulo-vascular axis continued to increase in size with the general growth of the plant, it was always small in proportion to the size of the stem. The chief enlargement of the latter was due to the growth of the bark, which exhibited three very distinct layers,—an inner one of cells with square ends, and slightly elongated vertically and arranged in irregular vertical rows, an intermediate one of prosenchyma, and an outer one of parenchyma. These conditions became yet further modified in old stems. The exogenous ligneous zone became very thick in proportion to the medullary vascular cylinder, and the differences between the layers of the bark became yet more distinct. These differences became the most marked in the prosenchymatous layer; at its inner surface the cells are prosenchymatous, but towards its exterior they become yet more elongated vertically, their ends being almost square, whilst numbers of them of exactly equal length are arranged in lines radiating from within outwards. These oblong cells often pass into a yet more elongated series with somewhat thickened walls, which become almost vascular, constituting a series of bast-fibres. In the transverse sections these prosenchymatous cells are always arranged, like the vessels of the ligneous zone, in radiating lines. Yet more external is the sub-epidermal parenchyma passing into leaves composed of the same kind of tissue. The petioles of the leaves have been long, if not permanently, retained in connection with the stem, a character of Corda's genus *Lomatophloios*.

Where young twigs branch, the vascular medullary cylinder divides longitudinally into two parts; the transverse section of this cylinder now resembles two horse-shoes pointing in opposite directions. The break in the continuity of each half of the cylinder occasioned by the division is never closed by new vessels belonging to the cylinder; but when the stem develops exogenously, the cambium-layer, from which the new growths originated, has endeavoured to surround these openings in the cylinder, and, by closing them, once more to separate the medullary from the cortical tissues. Some beautiful specimens have been obtained, which exhibit these new exogenous layers in process of formation. The vessels of the young layers are not half developed. At first they meander vertically through masses of delicate cellular tissue; but they soon arrange themselves in regular radiating vessels and cells, becoming mere outward prolongations of the woody wedges and medullary rays of the older part of the stem. At this stage of their growth, the walls of the vessels are deeply indented by the contiguous cells, as if the plastic issues of the former had been moulded upon the latter structures. As the new vessels enlarge, the superfluous intervening cells disappear, until each medullary ray finally consists of a single vertical pile of from one to a small number of cells, arranged in as many Conifera. The exceptional cases are those where vascular bundles pass outwards to the leaves; these bundles have protected the contiguous cells above and below them from the pressure of the enlarging ligneous vessels and limited their absorption. Both these and the smaller ordinary rays pass outwards in horizontal and parallel lines. The evidences of an exogenous mode of growth afforded by these young, half-developed layers of wood is clear and decisive.

The Burntisland deposits are full of fragments of strobili, especially of torn sporangia and of macrospores. Several fine *Lepidostrobi* have been obtained, like those to which the fragments have belonged, and which the author believes to have been the fruits of the stems described. The structure of these strobili is very clear and of interest; the primary branches from the central axis subdivide, so that each sporangium rests upon a separate bract, from the upper surface of which a vertical lamina arises, and, extending the entire length of the sporangium, ascends far into its interior, where it bifurcates. The cellular walls of the sporangium blend with the bract along each side of this sporangiophore. The microspores occupy the upper part of the *Lepidostrobus*, and are usually triplospores, sometimes tetraspores. The macrospores occupy the lowermost sporangia, are of large size, and are very remarkable from having their external surfaces clothed with numerous projecting caudate appendages, each one of which is slightly capitate at its extremity. So far as the author is aware, this is an undescribed form of macrospore.

Two new forms of *Lepidodendron* are described from the Oldham beds, in one of which the medullary axis attains to an unusually large size, even in the young shoots; whilst the other is remarkable for the magnitude of its leaves. It is obvious that the plant which is the chief subject of the memoir is a true example of Corda's genus *Diploxylon*, so far as its woody axis is concerned; whilst its bark and leaves are those of a *Lomatophloios*, and its slender twigs are *Lepidodendra*. The author also points out the probability that the plant had a true Stigmarian root.

The structure of these fossil types is compared with that of recent *Lycopodiaceæ*. The vascular medullary cylinder is shown to be an aggregation of the foliar vascular bundles, so that the vascular connection between the leaves and the stem is maintained exclusively by means of these vessels, which thus correspond most closely with the central vascular axes of living Lycopods. On the other hand, the exogenous layers do not communicate directly with the leaves in any way; but, on the other hand, they are homologous with the corresponding layers in the Stigmarian root, in which latter they receive the vascular bundles from the rootlets. The medullary cylinder does not enter the roots, but appears to terminate at the base of the stem, though the pith is prolonged through them. Hence it seems probable that the nutritive matters were taken up from the soil by the Stigmarian rootlets, that it ascended into the Diploxyloid stem through the exogenous layer, but that, in order to reach the leaves, if conveyed by the vessels, and not by the cellular tissues, it had to be transferred by endosmosis to those of the medullary cylinder. The bark of the fossil plants is compared with those of *Lycopodium chamæcyparissus*, and *Selaginella Martensii*, which two combined represent the former.

These discoveries necessitate some changes in generic nomenclature, since the several parts of the plant not only represent the three genera above mentioned, but also several others. Meanwhile some other errors require correction. Corda erroneously defined his genus *Diploxylon* as having no medullary rays, and Brongniart relied upon this distinction in separating *Diploxylon* from *Sigillaria*; but no difference exists between the ligneous structures of the two genera, so far as *Sigillaria* is illustrated by Brongniart's *S. elegans*. Corda, Brongniart, and King all agree in regarding *Diploxylon* (which is identical with Witham's *Anabathra*) as a Gymnospermous Exogen. The necessity for abandoning this separation of the plants in question from the *Lycopodiaceæ*, urged in the author's previous memoir, is now made more obvious than before, the distinctions upon which the great French botanist relied in his classification being now shown to be such as mere differences of age can produce. The author concludes from his own observations that the genera *Diploxylon*, *Anabathra*, *Lomatophloios*, and *Leptoxylon* must be united. Brongniart had already brought into one generic group Corda's genera *Lomatophloios*, *Leptoxylon*, and *Calamoxylon*, Göppert's genus *Pachyphyllum*, and Sternberg's genus *Lepidophloios*, giving the latter name to the whole. Hence no less than six obsolete generic names are disposed of. The author finally follows Brongniart in adopting the term *Lepidophloios*, and *temporarily* assigns to the plant described the trivial name of *L. brevifolium*. The further relations of this genus to more ordinary forms of *Lepidodendron* require further investigation.

Linnean Society, March 7.—Mr. G. Bentham, president, in the chair. "Revision of the genera and species of *Scilleæ*," by J. G. Baker. This paper contained technical details of the new groups and genera proposed of this difficult tribe of Liliaceæ in continuation of papers already presented to the society.—"On the Andræcium in *Cochliostema*," by Dr. M. T. Masters. In this singular genus of Commelynaceæ, from the Amazon region, the staminal arrangement is different to anything else observed in the vegetable kingdom. There are three petaloid stamens, all arranged on the posterior side of the pistil, within which are three spiral bodies constituting the anthers. Within these are three staminodes, one of which is not developed till a considerably later stage than the other two; they do not appear to have any physiological value. The mode of fertilisation is obscure; the stamens and styles are both so completely obscured that self-fertilisation seems impossible.—"On a supposed hybrid between *Vaccinium Myrtillus* and *V. Vitis-Idæa*," by Mr. Gardner. In the discussion which followed, the prevalent opinion was that the plant was but a variety of *V. Vitis-Idæa*.—"A list of the Marine Algæ of St. Helena," by Dr. Dickie. These are twenty-one in number, all dwarf, and, notwithstanding the remarkable peculiarity of the terrestrial vegetation, only one species is peculiar to the island.—"Catalogue of new *Leguminosæ* from Western India," by N. A. Dalzell.

Chemical Society, March 7.—Prof. Williamson, F.R.S., vice-president, in the chair.—In the course of the ordinary business of the society, the proposed changes in the officers and council of the society for the ensuing year were announced.—Dr. Debus, F.R.S., then read a paper "On the reduction of ethylic oxalate by sodium amalgam." In 1864 Dr. Friedlander described, as the result of this reaction, the production of the sodium salt of a new acid, which he named glycolinic acid. Although the author has carefully repeated Dr. Friedlander's experiments, and varied the details of the process in different ways, he has been unable to obtain glycolinic acid, the only acids formed being glycollic and tartaric. A comparison of the crystalline form of a specimen of sodium glycolinate, prepared by Friedlander, with that of sodium glycollate, would seem to indicate that it is identical with the latter.—Two other papers were read, one "On metastannic acid, and the detection and estimation of tin," by A. H. Allen; and the other, "Note on the quantity of cæsium contained in the water of the hot springs found in Wheal Clifford," by Colonel Philip Yorke, F.R.S., from which it appears that a gallon of this water contains 26 grs. of lithium chloride and one million parts 1·7 of cæsium chloride, or more than ten times as much of the latter as the Dürkheim water, in which, it will be remembered, that element was first detected by Kirchhoff and Bunsen in 1860.

Zoological Society, March 5.—Mr. John Gould, F.R.S., vice-president, in the chair. Mr. Howard Saunders exhibited and made remarks on specimens of *Falco barbarus* and *Cypselus pallidus*, obtained in Southern Spain, being the first recorded occurrences of these species on the continent of Europe.—A letter was read from Mr. Walter J. Scott, of Queensland, giving some further information respecting the supposed existence of an undescribed large carnivorous animal in that colony. This letter was accompanied by drawings of the impression of the foot of the animal.—Mr. A. H. Garrod read some notes taken on the dissection of an ostrich, recently living in the Society's menagerie. The examination of this bird proved that its death was due to copper poisoning, a number of copper coins and pieces of coin in a much worn state having been found in its stomach.—Mr. E. W. H. Holdsworth read a paper containing a catalogue of the birds found in Ceylon, with remarks on their localities and geographical distribution; and gave a description of two new species, which were proposed to be called *Zosterops ceylonensis* and *Arrenga blighi.* The total number of Ceylonese birds included in Mr. Holdworth's list was 323, of which 36 were stated to be peculiar to the island.—A communication was read from Dr. Hermann Burmeister, containing a list of the species of the Lamellirostral birds of the Argentine Republic, with remarks on their habits and times of occurrence.—A communication was read from Dr. W. Peters, containing a list of a collection of small mammalia recently made by Mr. J. J. Monteiro in Angola.—Dr. J. E. Gray communicated some notes on a new species of tapir (*Tapirus leucogenys*) from the snowy regions of the Cordilleras of Ecuador, recently obtained by Mr. Buckley; to which were added some observations on the young spotted tapirs of Tropical America.

Society of Biblical Archæology, March 5.—Dr. Birch, president, in the chair.—Mr. J. W. Bosanquet read a paper "Concerning Cyrus, son of Cambyses, grandson of Astyages, who took Babylon; as distinguished from Cyrus, father of Cambyses, who conquered Astyages." In this paper, the learned chronologist endeavoured to show that, contrary to the received opinion of historians, Cyrus, son of Cambyses, though leader of the Medes as early as the year B.C. 535, was contemporary with the early part of the reign of Darius Hystaspes; having taken the throne of the Persian Empire after the death of his father. This view he believed to be consonant with the results of recent discoveries, and afforded a satisfactory explanation of the confessedly difficult chronology of Ezra and the Chaldee writers. Mr. Bosanquet summed up his argument as having proved:—(1) that Cyrus, father of Cambyses, who conquered Astyages, neither conquered Babylon nor reigned in Babylon, as Ptolemy assumes in his Babylonian Canon; (2) that Cyrus, son of Cambyses, King of Persia, grandson of Astyages, twice conquered Babylon; but did not reign over Babylon till after his father's death in B.C. 518; (3) that Ptolemy's Canon rests upon no sound authority, either historical or astronomical, as regards placing the reign of Cyrus at Babylon before the reign of Cambyses; (3) that the alternative reckoning deduced from Demetrius is to be preferred to that of Ptolemy, as resting upon the dates of three solar eclipses.

Anthropological Institute, March 4.—Mr. G. Harris, vice-president, in the chair.—Mr. Charles F. Tyrrwhitt Drake was elected a member.—Captain Richard F. Burton read his third paper "On Anthropological Collections from the Holy Land." It contained accounts of the Hamath Inscriptions, facsimiles of which were exhibited, and of skulls from Siloam. An interesting discussion was raised on the high antiquity of the Hamath Inscriptions. Dr. Carter Blake described the human remains brought by Captain Burton from Siloam, and by M. Ganneau from the "Tomb of Jesus," near that place; the former were stated to be undoubtedly Jewish, and the latter of modern Turkish origin. Mr. J. Gould Avery read a paper "On Race-characteristics as related to Civilisation."

BOOKS RECEIVED

English.—Dr. Pereira's Elements of Materia Medica: Edited by Bentley and Redwood (Longmans).—Sir John Herschel's Outlines of Astronomy, 11th edition (Longmans).—Science Primers: Chemistry, by Prof. H. E. Roscoe; Physics, by Prof. Balfour Stewart (Macmillan).—Astronomy and Geology compared: Lord Ormathwaite (J. Murray)—The Higher Ministry of Nature: J. R. Leifchild (Hodder and Stoughton).

Foreign.—Annuaire de l'Académie Royale de Belgique, 1871. (Through Williams and Norgate.)—Lehrbuch der Botanik: Dr. O. W. Thomé, 2te Auflage.

DIARY

THURSDAY, March 14.

Royal Society, at 8.30.—Contributions to the History of the Opium Alkaloids.—IV.: Dr. C. R. A. Wright.—Further Investigations of Planetary Influence on Solar Activity: W. De La Rue, F.R.S., B. Stewart, F.R.S., and B. Loewy.—The Decomposition of Water by Zinc in connection with a more Negative Metal: Dr. Gladstone, F.R.S., and A. Tribe.

Society of Antiquaries, at 8.30.—Stone Altar and Thurible from Syria: Capt. Burton.—Further Facts in the History of the Discovery of Australia: R. H. Major, F.S.A.

Mathematical Society, at 8.—Shall the Society apply for a Charter?

Royal Institution, at 3.—On the Chemistry of Alkalies and Alkali Manufacture; Prof. Odling, F.R.S.

FRIDAY, March 15.

Royal College of Surgeons, at 4.—On the Digestive Organs of the Vertebrata: Prof. Flower, F.R.S.

Royal Institution, at 9.—The Alphabet and its Origin: J. Evans, F.R.S.

SATURDAY, March 16.

Royal Institution, at 3.—Demonology: M. D. Conway.

Association of Medical Officers of Health, at 7.30.—Mr. Stansfeld's Public Health Bill: Dr. A. W. Barclay.—On the Criminal Deaths of Infants, as shown by the Records of the Coroner's Court of Liverpool: F. W. Lowndes.

MONDAY, March 18.

Royal College of Surgeons, at 4.—On the Digestive Organs of the Vertebrata: Prof. Flower, F.R.S.

Anthropological Institute, at 8.—Comparative Longevity of Man and Animals: George Harris.—Physical Condition of Centenarians: Sir Duncan Gibb, Bart., M.D.

TUESDAY, March 19.

Royal Institution, at 3.—On the Circulatory and Nervous Systems: Dr. Rutherford.

Zoological Society, at 9.—Report on additions to the Society's Menagerie in February, 1872: The Secretary.—On a specimen of the Broad-fronted Wombat (*Phascolomys latifrons*): Prof. Macalister.

Statistical Society, at 7.45.

WEDNESDAY, March 20.

Royal College of Surgeons, at 4.—On the Digestive Organs of the Vertebrata: Prof. Flower, F.R.S.

Geological Society, at 8.—On the Wealden as a fluvio-lacustrine Formation and on the relation of the so-called "Punfield Formation" to the Wealden and Neocomian: C. J. A. Meyer, F.G.S.—Notes on Atolls or Lagoon Islands: S. J. Whitnell.—On the Glacial Phenomena of the Yorkshire Uplands: J. R. Dakyn.—Modern Glacial action in Canada: Rev. W. Bleasdell, M.A.

Society of Arts, at 8.—Notes from a Diamond Tour through South Africa; T. W. Tobin.

Meteorological Society, at 7.

THURSDAY, March 21.

Royal Society, at 8.30.

Royal Institution, at 3.—On the Chemistry of Alkalies and Alkali Manufacture: Prof. Odling, F.R.S.

Society of Antiquaries, at 8.30.

Linnean Society, at 8.—On the Geographical Distribution of Compositæ: G. Bentham.

Chemical Society, at 8.

CONTENTS

Page
La Seine 377
Our Book Shelf 380
Letters to the Editor:—
  The Placental Classification of Mammals.—Dr. Pye-Smith, F.Z.S. 381
  Potential Energy.—A. G. Greenhill 382
  Development of Barometric Depressions.—W. Clement Ley . . 382
  A Safety Lamp.—B. G. Jenkins 382
  Beautiful Meteor—Lord Rosse, F.R.S.; J. Budd 382
  "Whin."—Rev. Wm. R. Bell 383
Cuckoo and Pipit 383
Dr. G. E. Day 383
Ocean Currents. By W. Ferrel 384
Fergusson's Rude Stone Monuments. By Sir John Lubbock, Bart., M.P., F.R.S. (*With Illustrations.*) 386
The Study and Teaching of Mechanics 389
Notes 390
Aurora Australis. By A. Meldrum, F.R.A.S. 392
Geology: Supposed Legs of Trilobites. By Prof. J. D. Dana . . . 393
Physiology: Blood Crystals 393
Scientific Serials 393
Societies and Academies 394
Books Received 396
Diary 396

NOTICE

We beg leave to state that we decline to return rejected communications, and to this rule we can make no exception. Communications respecting Subscriptions or Advertisements must be addressed to the Publishers, NOT *to the Editor.*